REMARKS/ARGUMENTS

The Official Action initially restates the prior restriction requirement, which identified two groups of claims, namely, Group I including Claims 1-15 and 25-29 and Group II including Claims 16-24. Consistent with the prior provisional election, Applicants hereby affirm the election of Group I including Claims 1-15 and 25-29. As such, Claims 16-24 are hereby cancelled without prejudice to presentation in a subsequent divisional application.

The Official Action also objected to the drawings and, in particular, to Figs. 1, 4 and 7 for failing to properly label the rectangular boxes **18** and **20** in accordance with 37 CFR § 1.83. Replacement sheets 1/6, 3/6 and 5/6 are hereby submitted in order to properly label these rectangular boxes. In each instance, the legend "radiation source" has been inserted in rectangular box **18**. Similarly; the legend "radiation detector" has been placed within each rectangular box **20**. As such, Applicant submits that rectangular boxes **18** and **20** are properly labeled in Figs. 1 4, and 7 in accordance with 37 CFR § 1.83, thereby overcoming the objection to the drawings.

The Official Action also rejected Claims 1-15 and 25-29 under 35 USC § 102(b) as being anticipated by U.S. Patent No. 2,585,916 to Joseph E. Coleman. As set forth below, independent Claims 1, 9 and 25 have been amended to further patentably distinguish the claimed invention from the Coleman '916 patent. As a result of the amendment of independent Claim 9, dependent Claim 10 has been cancelled and dependent Claim 11 has also been amended. As explained below, the apparatus and method of the claimed invention are not taught or suggested by the Coleman '916 patent, thereby overcoming the rejection of the claims raised by the Official Action.

The Coleman '916 patent describes a jig for supporting an unfaced crystal during the x-ray analysis of the crystal to identify the x-axis of the crystal that extends perpendicular to the 1010 atomic plane. Once the x-axis of the crystal has been identified and the crystal has been properly positioned upon the jig, the jig may be transferred to a sawing table to permit the crystal to be cut in a direction perpendicular to the x-axis. As shown in Fig. 1 of the Coleman '916 patent, the x-ray apparatus includes a source of x-rays mounted under a protective hood **12** for

irradiating the crystal **16** mounted upon the jig **17**. The x-rays that impinge upon the crystal are re-radiated and the re-radiated beam is collected by an ionization chamber **22**.

As shown in more detail in Figs. 2 and 3, the jig includes a rectangular, flat plate **200** having a reference edge **21**. The plate defines a circular well **300** in which a glass-topped steel, circular disk **202** is disposed. The sidewalls of the well defined by the plate and sidewalls of the disk disposed within the well are correspondingly tapered in a frustoconical manner such that the disk may rotate, but is otherwise retained within the well. The jig also includes a pair of beveled shoes **208** and **210**. The shoe **208** is fixed relative to the plate by means of a set screw **209** while the other shoe **210** is movable. In this regard, the plate also defines a beveled channel within which the shoes are disposed. The beveled shoe **210** is connected to a locking arm **211** that pivots about a pivot pin for moving the beveled shoe **210** toward and away from the disk **300**. By moving the beveled shoe **210** toward the disk **300**, the disk may be locked in place relative to the plate as a result of engagement of the disk by the beveled shoe. In contrast, the locking arm **211** can be moved in a direction so as to move the beveled shoe **210** away from the disk **300**, thereby freeing the disk for rotation relative to the plate.

As now amended, independent Claim 1 recites an apparatus for orienting a crystalline body during radiation diffractometry. The apparatus includes a frame having a first member adapted to support the frame relative to the source of radiation and a second member movably connected to the first member. The frame also includes an engagement member carried by the second member for engaging a predetermined portion of the crystalline body to thereby define the angle at which radiation will impinge upon the crystalline body. In the Official Action, the plate **200** was analogized to the first member, the locking arm **211** was analogized to the second member and the beveled shoe **210** was considered to be the engagement member.

Initially, Applicants would note that even if the beveled shoe **210** were considered to be an engagement member, the beveled shoe **210** is not designed to engage a predetermined portion of the crystalline body as recited by independent Claim 1. Instead, the beveled shoe **210** is designed to contact an edge of the disk **202**. As such, the crystal that is carried by the disk **202** is not engaged by the beveled shoe **210** as recited by independent Claim 1.

Additionally, independent Claim 1 has been amended to recite that the second member is movably connected to the first member such that movement of the second member relative to the first member alters an angular position of the engagement member with respect to the first member. As shown in the embodiment of Figs. 5-7, for example, movement of the second member **56** relative to the first member **52** causes the engagement member **60** to move angularly about or relative to the first member **52**. In this regard, a comparison of Figs. 5 and 7 of the present application illustrates the alteration in the angular position of the engagement member **60** relative to the first member **52** in response to movement of the second member **56** relative to the first member **52**. In contrast, even if the locking member **211** were considered to be the second member and the plate **200** were considered to be the first member, movement of the locking arm relative to the plate does not alter the angular position of the beveled shoe **210** relative to the plate. Instead, movement of the locking arm merely causes the beveled shoe **210** to slide through a linear track extended radially toward and away from the disk **202**.

For each of the foregoing reasons, Applicant submits that the Coleman '916 patent does not teach or suggest the apparatus of amended independent Claim 1. The rejection of independent Claim 1 is therefore overcome.

Similarly, independent Claim 25 is drawn to a method for orienting a crystalline body during a radiation diffractometry that includes the steps of providing a frame having first and second members movably connected to one another, positioning the second member of the frame relative to the first member of the frame, and engaging a predetermined portion of the crystalline body with a engagement member carried by the second member of the frame to thereby define the angle at which radiation will impinge upon the crystalline body. As noted above in conjunction with amended independent Claim 1, the beveled shoe **210** of the x-ray jig of the Coleman '916 patent does not engage a predetermined portion of the crystalline body as recited by independent Claim 25. Instead, the beveled shoe **210** engages the disk **202** upon which the crystal is mounted.

Additionally, independent Claim 25 has been amended to further define that the positioning of the second member relative to the first member alters the angular position of the engagement member with respect to the first member. As also described above in conjunction

with amended independent Claim 1, repositioning of the locking arm **211** relative to the plate **202** does not alter the angular position of the beveled shoe **210** relative to the plate **200** and, instead, merely slides the beveled shoe in a radial direction toward and away from the disk.

As such, Applicant also submits that amended independent Claim 25 is not taught or suggest by the Coleman '916 patent. As such, the rejection of independent Claim 25 is therefore also overcome.

Independent Claim 9 is also drawn to an apparatus for orienting a crystalline body during radiation diffractometry. The apparatus of amended independent Claim 9 includes a frame for supporting at least a portion of the crystalline body during radiation diffractometry. The frame includes a base to support the frame relative to a radiation source. As now amended, the frame also includes a central portion and at least two arms extending outwardly from the central portion with one of the arms connected to the base. The apparatus further includes an engagement member carried by another of the arms of the frame for engaging a predetermined portion of the crystalline body. The engagement member extends at a non-orthogonal angle relative to the base.

The Coleman '916 patent does not teach or suggest a frame that includes "a central portion and at least two arms extending outwardly from the central portion", as now recited by amended independent Claim 9. Moreover, the Coleman '916 patent does not teach or suggest that one of the arms is connected to the base and that another of the arms carries the engagement member. For each of the foregoing reasons, Applicants submit that amended independent Claim 9 is not taught or suggested by Coleman '916 patent. As such, the rejection of amended independent Claim 9 is therefore also overcome.

The dependent claims include each of the recitations of the respective independent claims. As such, the dependent claims are also patentably distinct from the Coleman '916 patent for at least the reasons described above in conjunction with respect to independent claims. However, the dependent claims include additional recitations that further patentably distinguish the method and apparatus of the claimed invention from the Coleman '916 patent.

In this regard, dependent Claim 4 recites that the first and second members each include indicia to facilitate positioning of the first and second members relative to one another. While

the Official Action points to Figs. 1 and 5 of the Coleman ' 916 patent for their disclosure of indicia, the indicia noted in Figs. 1 and 5 is not included upon either the first or the second members, as set forth by dependent Claim 4. Additionally, dependent Claim 5 recites that the second member defines an aperture for viewing the engagement of the crystalline body by the engagement member. In contrast, the locking arm of the Coleman '916 patent, which is considered to be the second member by the Official Action, does not include any aperture for viewing the engagement of the crystalline body the engagement member. Further, dependent Claims 6 recites that the second member includes at least one support for engaging another portion of the crystalline body. As noted above, the locking arm of the Coleman '916 patent which is considered by the Official Action to be the second member does not engage the crystal and, as such, also does not include at least one support for engaging another portion of the crystal.

Dependent Claim 11 further defines the at least two arms of the frame to include first, second and third arms that extend outwardly to the central portion with the first arm connected to the base and the third arm carrying the engagement member. Moreover, dependent Claim 12 furthers defines the third arm to define an axis extending through the central portion and bisecting an angle defined between the first and second arms. As also noted above, the Coleman '916 patent does not teach or suggest a frame having a first, second and third arms extending outwardly from a central portion, let alone a frame having first, second and third arms in which the third arm defines an axis bisecting an angle between the first and second arms. Further, dependent Claim 13 defines an engagement member to extend at 45° with respect to the base, which is also not taught or suggested by the Coleman '916 patent. Finally, dependent Claim 29 recites that the engagement member is threadably advanced into engagement with the crystalline body. With respect to the beveled shoe **210** that is considered to be an engagement member by the Official Action, the beveled shoe is not threadably advanced into engagement with the crystal or the disk which carries the crystal and, instead, merely slides within a linear track defined by the plate upon movement of the locking arm **211**.

As noted above, the dependent claims are patentably distinct from the Coleman '916 patent for at least the same reasons as described above in conjunction with the respect to the

respective independent claims. However, a number of the dependent claims are also patentably distinct from the Coleman '916 patent for the foregoing more particular reasons. As such, the dependent claims are not taught or suggested by the Coleman '916 patent, thereby overcoming the rejection of the dependent claims.

Conclusion

In view of the replacement drawings, the amended claims and the remarks presented above, Applicants submit that the current set of claims is in condition for allowance. As such, the issuance of a Notice of Allowance is respectfully requested. In order to expedite examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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